

Optimization of Complex Treatment of Acute Herpetic Candidiasis Stomatitis in Children

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Relevance

*In recent years, the prevalence of fungal diseases has increased significantly, which is associated with the widespread and not always rational use of antibiotics, cytostatics, corticosteroid hormones, an increase in the frequency of nosocomial infections, the development of immunodeficiency conditions. Candidiasis caused by the yeast-like fungus Candidiasis is most common in clinical practice. The main causative agent of candidiasis - *C. albicans* y - is found in the oral cavity in 60% of the adult population, other *Candida* species account for 10-20% of oral candidiasis.*

KEYWORDS: *Treatment, Herpetic Candidiasis, Children.*

The incidence of oral candidiasis in adult patients reaches 42%, in newborns – 5%, in infants - 10%. In the elderly population, this type of infection occurs in every tenth [1], *Candida* is a conditionally pathogenic fungus that, when the immune system of the macroorganism weakens and when taking antibiotics, antiseptics, cytostatics, turns into a pathogenic microorganism and causes a disease of the skin and mucous membranes of a person [6]. Both local and systemic factors contribute to the development of candidiasis [9].

An intensive increase in the frequency of fungal diseases is especially strongly observed in pediatric practice, in newborns and young children, especially in premature infants, weakened due to intrauterine asphyxia, birth trauma, rickets, hypovitaminosis, artificial feeding, etc. [2]. The first and obligatory stage in the development of candidiasis infection is adhesion, for this there must be conditions - a decrease in the immune environment, a change in the pH of the oral mucosa.

The adhesion of fungi to the surface of the epithelium of the mucous membranes and skin is carried out already in the first minutes of their interaction and is an initial, critical stage in the emergence of colonization of an invasive mycotic process [4]. In children, herpetic infection often manifests itself in the oral cavity in the form of herpetic stomatitis, during the year it proceeds with periodic complications. Infection with herpes simplex among children from 6 months to 5 years is 60%, in 15-year-olds it is 90%, and these indicators are growing every year. The death rate from herpetic lesions is 15.8% among viral diseases. In terms of prevalence, herpes infection ranks second after influenza (35.8%). Worldwide, more than 20 million people are infected with herpes and are its carriers in an asymptomatic form. The number of carriers of the HSV-1 and HSV-2 virus has increased by 30% over the past 10 years.

For the diagnosis of acute herpetic stomatitis, molecular genetic studies of the DNA of the herpes simplex virus by polymerase chain reaction are of particular importance. This makes it possible to quickly, accurately and specifically diagnose herpetic stomatitis in children.

Humanity has moved into the 21st century, the century of scientific and technological progress, when many discoveries in the field of new technologies, especially physical research, which are widely used in the national economy, eventually begin to be introduced into medical practice.

Among these implementations, special importance is attached to ultrasound therapy. Ultrasound

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therapy, according to many researchers, scientists and specialists, is considered one of the most common and highly effective methods of modern physiotherapy used in the complex treatment of a wide range of diseases in orthopedics, surgery, gynecology, dentistry, dermatology, etc.

In general, the use of low-frequency ultrasound energy in the treatment of inflammatory diseases is based on the initiation of the following effects: direct bactericidal action of ultrasonic vibrations; indirect action by activating phagocytosis of microbial bodies; creating an increase in the concentration of antibacterial drugs; improving vascular trophic and tissue metabolism; correction and stimulation of detoxification, immunocorrection, antihypoxia, analgesia, etc.; of particular importance and promise is "ultraphonophoresis", when medicinal substances are injected into tissues using ultrasound.

The method of treatment of herpetic stomatitis using ultrasound therapy, included in the complex of etiopathogenetic, therapeutic measures is particularly relevant. In this regard, it seemed appropriate to study the effect of ultrasound therapy in the treatment of acute herpetic stomatitis in children.

Targeted practical measures are being implemented in our country to reform the healthcare system. A number of studies have been conducted and are being conducted to improve the effectiveness of disease treatment, including the diagnosis and prevention of diseases in pediatric dentistry. According to the action strategy for five priority directions focused on the development of the Republic of Uzbekistan in 2017-2021, the key tasks for improving the healthcare system have been identified. In this regard, identifying the causes, studying the prevalence, intensity of diseases, the hygienic condition of the oral cavity, as well as solving problems to improve educational work in relation to the health of mother and child in the antenatal and perinatal periods, are important tasks of pediatric dentistry.

Herpes simplex virus type 1 (HSV-1), which is part of herpesvirides, causes many viral human diseases worldwide. The wide distribution, the variety of transmission routes, the possibility of infection of a wide range of organs and tissues, including nerve tissue cells, the ability to pass into the latent stage of infection with subsequent possible reactivation in conditions associated with immune suppression determines the relevance of this infection.

The purpose of the study: Improving the effectiveness of complex treatment of acute herpetic and candida stomatitis in children (by correcting the clinic of etiopathogenetic therapeutic measures).

Research objectives:

1. To evaluate the clinical and immuno-microbiological features of the course of acute herpetic and candida stomatitis in children who need correction during treatment
2. Evaluate the microflora of the oral mucosa (SOPR) in children , with the allocation of the most characteristic deviations affecting therapeutic measures
3. 3.To evaluate the effectiveness of complex etiopathogenetic treatment of these diseases of COPD and to study the dynamics of indicators of local immunity of the oral cavity before and after treatment
4. To assess the impact of sanitation, professional and rational oral hygiene on the effectiveness of complex etiopathogenetic treatment
5. To develop a treatment regimen for acute herpetic and candida stomatitis in children based on established clinical immunological and microbiological data.

Object of research:

The main objects of research will be 120 sick children with mild to moderate severity of herpetic stomatitis accompanied by candidiasis of the oral mucosa, aged from 3 months to 15 years.

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Subject of research: For molecular genetic studies, we will take a scrape from the surface of lesions, prints from the SOPR to determine the colonization of microbes. To study oral fluid for microbiological and biochemical studies.

Research methods: to achieve the set goals and objectives, we will carry out clinical, hygienic, microbiological, biochemical research methods, the method of polymerase chain reaction in real time and statistical methods.

On the basis of a specially developed examination card of the patient, a detailed description of the clinical course of acute herpetic and candidous stomatitis in children will be given

The effectiveness of complex therapy on the regenerative properties of SOPR as well as on periodontal and hygienic indices has been proven

A number of clinical, immunological and microbiological signs associated with these diseases have been identified, serving as the basis for the development of complex therapeutic and preventive measures taking into account the data obtained

Based on the data obtained, an algorithm for the complex treatment of acute herpetic and candidous stomatitis in children was developed.

The results obtained will expand theoretical and practical knowledge about the prevention of acute herpetic candidiasis stomatitis. The effectiveness of various methods for the prevention of acute herpetic candidiasis stomatitis will be established and the most effective scheme for the prevention of acute herpetic candidiasis stomatitis will be proposed, which allows to increase the preventive effectiveness in children.

The clinical picture of HRGS is directly related to the state of the body's immune system, it affects the development of the infectious process in herpes by changing the ratio of the components that make up its composition. Patients suffering from HVI have various manifestations of immunodeficiency, which allows us to talk about herpes infection as a disease of the immune system. The duration and quality of life of a particular person, the features of the course of the disease and the prognosis are directly proportional to the disorders in the links of the immune system. With HRGS, secondary immunodeficiency occurs, which is due to functional insufficiency of cells or a decrease in their number, or an imbalance of components of the immune system. Sometimes antibodies stimulate infection by turning their action against the cell, for example, the IgG molecule in NK cells specifically binds to cells through receptors for the Fc fragment and provides close contact between the viral envelope and the cell surface, facilitating the penetration of the virus into the cell [1.3.5.7.9.11.13.15.17].

Another defense mechanism is the persistence of the virus in tissues that are not subject to immune surveillance (neurons of the regional ganglia of sensitive nerves). These cells are not able to represent a type I histocompatibility complex, which results in an unhindered persistence of the virus in them. There are significant differences in the infection of lymphocytes and epithelial cells. Virus replication occurs in epithelial cells with the formation of virions and damage to nearby cells of this locus. When B-lymphocytes are infected, only in a small percentage of cases the virus replicates, and in the rest it is in a latent state. In the early stages of the development of the disease, infection of NK cells and T lymphocytes is possible, followed by the circulation of viral lymphocytes throughout life and the formation of a chronic infection. The ability of HSV to exist in various cells of the immune system leads to the formation of a mechanism of escape from the body's defense systems.

The immune response of the macroorganism is directed both against the cells affected by the virus and against the virus itself and is determined by two protective mechanisms: specific immunity formed after a disease or artificial immunization and natural resistance, which is based on innate resistance to virus reproduction. Factors of nonspecific protection of the body are the first to interact

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with the viral agent. Various components of nonspecific resistance, being more ancient mechanisms of the body's defense, make a significant contribution to the body's response to viral aggression [2.4.6.8.10.12.14.16].

The tissue macrophage is one of the first cells involved in the immune response in viral infection. Macrophages are directly involved in both specific and non-specific immune reactions of the body to the introduction of a foreign agent. They capture and absorb pathogens and present antigenic proteins to T-21 and B-lymphocytes, initiating the development of cellular and humoral immune response. Macrophages respond to viral aggression with lightning-fast production of pro-inflammatory cytokines, due to the activation of neutrophils, monocytes /macrophages, NK cells and have an effect on T- and B-lymphocytes, including a specific immune response. The contagiousness of the disease and the appearance of mature extracellular forms of the virus is due to intracellular persistence of HSV with incomplete phagocytosis.

Neutrophils are important elements of antiherpetic immunity, synthesizing interferon, cytokines and defensins. Migration of HSV to sensory ganglia is prevented by polymorphonuclear leukocytes. The disruption of adaptive reactions of the human body occurs due to changes in the function of PMYALS affected by herpes viruses. A decrease in the activity of PMN enzymes exacerbates the deficiency of components of the immune system.

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